

Application No. 10/089,162

Reply to Office Action of April 21, 2003

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): ~~Treatment process for cork or a cork-based material in which said cork or said cork-based material is put into contact~~ A process comprising:
contacting cork or a cork-based material with a dense fluid under pressure at a temperature of from 10 to 120°C and at a pressure of from 10 to 600 bars.

Claim 2 (Currently Amended): ~~Process~~ The process according to claim 1, ~~in which the contact is achieved~~ wherein the contacting is carried out at a temperature of 40 to 80°C and at a pressure of 100 to 300 bars.

Claim 3 (Currently Amended): ~~Process~~ The process according to claim 1, ~~in which~~ wherein said dense fluid under pressure is in the super-critical state.

Claim 4 (Currently Amended): ~~Process~~ The process according to claim 1, ~~in which compression/decompression cycles are carried out~~ further comprising
alternately increasing and decreasing the pressure.

Claim 5 (Currently Amended): ~~Process~~ The process according to claim 4, ~~in which said compression/decompression cycles are~~ wherein alternatively increasing and decreasing the pressure is carried out with an amplitude of the pressure variation from 10 to 100 bars and time intervals varying from 10 seconds to a few minutes, ~~for example~~ 10 minutes.

Claim 6 (Currently Amended): [Process] The process according to claim 1, ~~in which said~~ wherein the dense fluid is under pressure is at least one selected ~~chosen for example~~

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~~from among~~ from the group consisting of carbon dioxide; sulphur hexafluoride; nitrous oxide; nitrogen monoxide; ~~light alkanes for example an alkane~~ containing 1 to 5 atoms of carbon, ~~such as methane, propane, butane, isobutane and pentane;~~ an [alkenes] alkene, such as ethylene and propylene; and ~~some an organic liquid liquids such as methanol and ethanol.~~

Claim 7 (Currently Amended): ~~Process~~ The process according to claim 1, ~~in which a co-solvent is added to~~ wherein the dense fluid under pressure further comprises a co-solvent.

Claim 8 (Currently Amended): ~~Process~~ The process according to claim 7, ~~in which said wherein the~~ co-solvent is at least one chosen from among water; selected from the group consisting of an aqueous solutions solution; water; an alcohol alcohols, for example aliphatic alcohols with 1 to 5 atoms of carbon, such as ethanol, methanol and butanol; acetones; a ketone and mixtures thereof.

Claim 9 (Currently Amended): ~~Process~~ The process according to claim 8, ~~in which said aqueous solutions are~~ wherein the co-solvent comprises at least one selected from the group consisting of an aqueous buffer solutions such as buffer solutions of phosphate and / or hydrogenophosphate; a fungicide; and/or an antibiotic solutions such as penicillin; and an antioxidant solutions such as solutions of ascorbic acid.

Claim 10 (Currently Amended): ~~Process~~ The process according to claim 7, ~~in which said wherein the~~ co-solvent is added to present in the dense fluid under pressure with a content in an amount of 0.01 to 10% by weight.

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Claim 11 (Currently Amended): ~~Process~~ The process according to claim 10, ~~in which said wherein the co-solvent is added to present in the dense fluid under pressure with a content in an amount~~ of 0.02 to 1% by weight.

Claim 12 (Currently Amended): ~~Process~~ A process comprising:
~~extracting for selective extraction of contaminating organic compounds from cork or a cork-based material, in which said material is treated by:~~ by contacting said cork or cork-based material with a dense fluid under pressure at a temperature of from 10 to 120°C and at a pressure of from 10 to 600 bars and adding a co-solvent to the dense fluid under pressure, to extract said organic compounds from said material.

Claim 13 (Currently Amended): ~~Process~~ The process for selective extraction according to claim 12, ~~in which wherein~~ said organic compounds are compounds ~~responsible for having an undesirable tastes taste, smell or both taste and smell and/or smells.~~

Claim 14 (Currently Amended): ~~Extraction~~ The process according to claim 13, ~~in which wherein~~ said organic compounds ~~responsible for the undesirable tastes and/or smells are comprise at least one selected from the group consisting of a (poly)chlorophenols and other a phenolic compounds, and (poly)chloroanisoles and other derivatives and a compound of anisole.~~

Claim 15 (Currently Amended): ~~Process~~ The process according to claim 12, ~~in which wherein~~ said organic compounds comprise at least one of a (poly)chlorophenol, a pentachlorophenol (PCP), a (poly)chloroanisole, a trichloroanisole (TCA) and or a tetrachloroanisole (TeCA).

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Claim 16 (Currently Amended): ~~Extraction~~ The process according to claim 12, ~~wherein in which~~ the dense fluid under pressure is CO₂ and the co-solvent is water or an aqueous solution.

Claim 17 (Currently Amended) ~~Treatment or extraction~~ The process according to claim 1, further comprising
forming one or more extracts by contacting the cork or cork-based material with the dense fluid under pressure,
separating the dense fluid under pressure from the extracts,
~~in which the fluid and the extracts are separated by one or several steps, after the treatment or the extraction by the dense fluid under pressure, and the gaseous fluid is recycled~~
vaporizing at least a portion of the separated dense fluid under pressure to form a gaseous fluid, and
recycling the gaseous fluid.

Claim 18 (Currently Amended): ~~Process~~ The process according to claim 1, ~~in which said cork or said cork-based~~ further comprising:
chemically or mechanically treating the cork or the cork-based material is also
~~subjected to a mechanical and/or chemical treatment before or after said treatment or said~~
~~extraction~~ contacting the cork or the cork-based material with by the dense fluid under pressure, ~~and particularly treatment by hot or boiling water commonly called a "boiling treatment".~~

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Claim 19 (Currently Amended): ~~Process~~ The process according to claim 1, ~~in which said cork or cork-based further comprising:~~

shaping the cork or the cork-based material is shaped before or after said treatment or said extraction using contacting with the dense fluid under pressure; or earlier than said optional mechanical and/or chemical treatment, preceding said treatment or said extraction by the dense fluid under pressure; or later than said optional mechanical and/or chemical treatment, following said treatment or said extraction by the dense fluid under pressure.

Claim 20 (Currently Amended): ~~Process~~ The process according to claim 19, further comprising

shaping the in which said cork or the said cork-based material is put into the form of bottle corks, boards or sheets.

Claim 21 (Currently Amended): ~~A Manufacturing~~ A process for manufacturing bottle corks made of cork or made of a cork-based material, comprising at least one ~~treatment or extraction step~~ contacting treatment according to claim 1.

Claim 22 (Canceled).

Claim 23 (Currently Amended): ~~Process~~ A process for disinfecting or making aseptic a cork or a cork-based material, ~~or making it aseptic, by bringing said cork or said cork-based comprising:~~

disinfecting or making aseptic by contacting the cork or cork-based material into contact with a dense fluid under pressure comprising to which a co-solvent has been added, at a temperature of from 10 to 120°C and at a pressure of from 10 to 600 bars.

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Claim 24. (Currently Amended): ~~Process~~ The process according to claim 8, ~~in which~~
~~wherein~~ said co-solvent is ~~added to~~ present in the dense fluid under pressure ~~with a content in~~
an amount of 0.01 to 10% by weight.

Claim 25 (Currently Amended): ~~Treatment or extraction~~ The process according to
claim 12, further comprising

forming one or more extracts by contacting the cork or the cork-based material with
the dense fluid under pressure,

separating the dense fluid from the extracts,

~~in which the fluid and the extracts are separated by one or several steps, after the~~
~~treatment or the extraction by the and the gaseous fluid is recycled~~

vaporizing at least a portion of the separated dense fluid under pressure to form a
gaseous fluid, and

recycling the gaseous fluid.

~~the gaseous fluid is recycled.~~

Claim 26 (Currently Amended): ~~Process~~ The process according to claim 12, ~~in~~
~~which said cork or said cork-based~~ further comprising

mechanically or chemically treating the cork or cork-based material is also subjected
~~to a mechanical and/or chemical treatment before or after said treatment or said extraction by~~
contacting with the dense fluid under pressure, ~~and particularly treatment by hot or boiling~~
~~water commonly called a "boiling treatment".~~

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Claim 27 (Currently Amended): ~~Process~~ The process according to claim 12, ~~in which said cork or said cork-based~~ further comprising:

shaping the cork or the cork-based material ~~is shaped before or after said treatment or said extraction using~~ contacting with the dense fluid under pressure; ~~or earlier than said optional mechanical and/or chemical treatment, preceding said treatment or said extraction by the dense fluid under pressure; or later than said optional mechanical and/or chemical treatment, following said treatment or said extraction by the dense fluid under pressure.~~

Claim 28 (Currently Amended): ~~Process~~ The process according to claim 27, ~~in which said cork or said cork-based~~ further comprising

shaping the cork or the cork-based material ~~is put~~ into the form of bottle corks, boards or sheets.

Claim 29 (Currently Amended): A Manufacturing process for manufacturing bottle corks made of cork or made of a cork-based material, comprising at least ~~one contacting treatment~~ one treatment or extraction step according to claim 12.

Claim 30 (Canceled).

Claim 31 (New): The process according to Claim 1, wherein the dense fluid under pressure comprises at least one selected from the group consisting of methane, propane, butane, isobutane, pentane, ethylene, propylene, methanol and ethanol.

Claim 32 (New): The process according to Claim 7, wherein the co-solvent is an aliphatic alcohol having 1 to 5 carbon atoms.

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Claim 33 (New): The process according to Claim 32, wherein the co-solvent is selected from the group consisting of ethanol, methanol, butanol and mixtures thereof.

Claim 34 (New): The process according to Claim 9, wherein the co-solvent comprises at least one selected from the group consisting of a buffer solution of phosphate, a buffer solution of hydrogen phosphate, penicillin, and a solution of ascorbic acid.

Claim 35 (New): The process according to Claim 1, further comprising contacting the material with water before or after contacting the material with the dense fluid under pressure.

Claim 36 (New): The process according to Claim 35, wherein the water is boiling water.

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BASIS FOR THE AMENDMENT

Claims 1-21, 23-29 and 31-36 are active in the present application. Claims 22 and 30 have been cancelled without prejudice or disclaimer of subject matter. The claims have been amended for clarity. Claims 31-36 are new claims. Support for the new claims is found in the original claims. No new matter is believed to have been added by this amendment. The amendment for clarity is not intended to further limit the claimed subject matter. It is believed that no new matter is added by this amendment.